STUDY NOTES · BASIC CONCEPT

What is meant by Mines in the St of Hormuz? How would US Navy Clear those Mines in Hormuz?

International Relations

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What is the Strait of Hormuz?

- It is a narrow waterway (just 21–24 miles wide at its narrowest) between Iran and Oman.
- It connects the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- Around 20–21% of the world’s oil and a large portion of LNG pass through it daily. Closing or disrupting it can spike global oil prices dramatically.

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What Are These "Mines"?

These are sea mines — explosive weapons placed underwater to damage or sink ships. Iran has an estimated 5,000–6,000 naval mines in its arsenal.

Main Types Iran Uses:

Type	How It Works	Danger Level
Drifting/Floating Mines	Floats with the current, explodes on contact	High (unpredictable)
Moored/Contact Mines	Anchored underwater, explodes when ship hits it (classic "spiky ball" type)	Very High
Bottom/Influence Mines	Sit on the seabed, triggered by ship’s noise, magnetic field, or pressure	Hardest to detect & clear

Iran deploys them using small fast boats, helicopters, or submarines — often at night for surprise.

Why This Strategy is Effective?

- Mines are cheap but create huge fear — shipping companies avoid the area even if only a few mines are present.
- Clearing mines is slow and dangerous (can take weeks or months).
- Even a small number can effectively blockade the strait without Iran needing a full navy.

How would the mines be cleared?

1. Detection Phase – Finding Hidden Mines

The first and most critical step is detecting where the mines are located. The US Navy uses advanced underwater drones (unmanned vehicles) equipped with sonar to scan the seabed and identify hidden explosives. These drones can map large areas and detect even small or buried mines, which are otherwise invisible to ships.

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2. Aerial Surveillance – Spotting Floating Threats

Along with underwater systems, the Navy deploys MH-60S helicopters fitted with laser and imaging systems. These helicopters can detect floating or near-surface mines quickly over large areas. This aerial layer adds speed and helps identify immediate threats to ships entering the strait.

3. Neutralization – Destroying Mines Safely

Once mines are detected, specialized robotic systems or explosive charges are used to neutralize them. Instead of sending divers into dangerous waters, remotely operated vehicles approach the mine and safely detonate or disable it. This reduces risk to human life while ensuring precision.

4. Warship Protection & Escort

While mine-clearing operations are underway, US Navy destroyers provide air, missile, and surface protection. These warships guard against threats like drones, missiles, or fast attack boats from Iran. They also escort commercial ships through cleared routes to ensure safe passage.

5. Creating a Safe Shipping Corridor

Instead of clearing the entire sea, the Navy focuses on creating a “safe corridor”—a secure path through which oil tankers and cargo ships can travel. This approach is faster and allows global trade to resume even while full clearance operations continue.

6. Challenges in Mine Clearance

Mine-clearing in the Strait of Hormuz is extremely difficult because:

- Mines may be randomly placed and hard to locate
- Iran reportedly used small boats and drones to deploy them
- Continuous threats (missiles, fast boats) make operations risky
- The narrow waterway limits maneuverability

These factors make the mission slow, complex, and dangerous.

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Conclusion

The US Navy uses a multi-layered strategy—drones, helicopters, robots, and warships—to clear mines in the Strait of Hormuz. However, due to ongoing conflict and hidden threats, the operation remains highly risky and time-consuming.